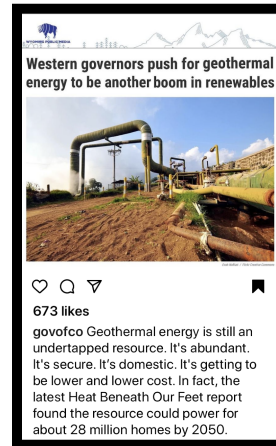


# Timeline on Geothermal Energy in Chaffee County July 18, 2023



Photo from CR323 & CR 321 May 2023



From G Polis IG site last week

1. 1980 [Peer Reviewed Research on Chaffee County](#) (abstract) Healy, F C, and [1980-04-01](#) (report)
2. **2008** 11-05 [Geothermal power is safe](#) Henderson rebuttal vial letter to editor regarding CR 162
- 2.a 2020-09-20 Article in Gazette Nestle began harvesting water from spring near Ruby Mountain [Article in Gazette about Nestle water](#) striving to renew expired 10 year permit "Arrowhead brand" *"In its 2019 annual report, the company said it extracted 89 acre-feet of spring water; 5.6% of the 1,573 acre-feet of overall flow measured. An acre-foot is equal to nearly 326,000 gallons."* = 209,000,000 gallons
3. **2013 Section 1041** updates 2023-05-29 [Commissioners continue geothermal 1041 hearings](#) and hold [public meetings](#)  
**Authority:** *"These Regulations are necessary for the preservation of the public health, safety and welfare."*  
**Purpose of 1041 :** p. 2 S1-102 (2d) *"To protect the beauty of the landscape and the rural character of the County, to enhance recreational opportunities for residents and visitors, to preserve important archeological and historic sites and significant wildlife habitat, to protect air and water quality and to conserve soil, water and forestry resources;"*  
p. 3 S1-102 (2f) *"To regulate development projects that would otherwise cause excessive noise, water, and/or air pollution, or which would otherwise degrade or threaten the existing environment quality within the County;"*
4. **2013-06-16:** Article in [Chaffee County Times](#) Getting into Hot Water
5. **2021-12-20** Drill in [Yellowstone](#)? *"...impact features in the park."*
6. **2022-07-28** [Is geothermal the energy answer for the west?](#) & [Heat Beneath our Feet](#) (HBOF) perspectives. Polis announced \$120 million for clean energy tax credits;
7. **2022-08-16** [Inflation Reduction Act](#) and [EPA Summary](#) for green, renewable energy research funding

**8. 2022-08-10 Articles:** [Chaffee County Times Primary Drill site](#) "...mostly concealed in the trees." and 08/11 follow up article mentioned [hot water regulated](#) by Division of Water Resources. Mt Princeton seeks 10 to 100 MW power plant potential here in Chaffee County Valley. "...primary one near the turnoff to Lost Creek Ranch and two more from that site." References "Chaffee County Geothermal Development guidelines, [Section 1041.](#)"

**9. 2023-01-17 SDCEA MEETING:** *Colorado State University Center for New Energy Economy & Public Utilities*, Attendees: Tom Plant, Gov Bill Ritter, Paul Erickson, Dan Daly, Joe Redetzke ([SDCEA](#)) at Mt Princeton Hot Springs [Article in Ark Valley 2](#)

**10. 2023-1-21 Article [Geothermal Energy Convening](#)** Mt Princeton. From the Heat Beneath our Feet... 35 in attendance, Ritter, Carter, Plant, Morgan, Highley, Henderson, (1000 gal/min) (Waunita Hot Springs area and Raton Basin W of Trinidad) (Trinidad has been having earthquakes recently) (Henderson is quoted here claiming 5-10 MW???) "geothermal bankability report" based on preliminary drilling

**11. 2023-01-30 Article [Beginning to Answer](#)** article from Ark Valley Voice Q & A

- a. Other locations: Pagosa Springs, Glenwood Springs, Mt Princeton, Raton Basin, San Luis Valley, The Great Basin in NV
- b. ""They make some noise but are being considered for deep well drilling on open *federal* land east of Mt Princeton."" (?*Federal* or State?)
- c. Risks: "...it's the lack of skilled labor."

**12. 2023-02-27 SDCEA meeting notes [Dan Daly](#)** to commence securing several million dollars in grant funding for project W of CR 321 by Mt Princeton after Jan 17 meeting. (Attendees included officials from Buena Vista and Chaffee County and across the state of CO) Flags currently posted.

**13. 2023-spring** 30 survey flags installed at the intersection of 321 & 323 - see photo above. Originally placed on both sides of Rodeo road but flags on the east side have been removed.

**14. 2023-04-26 SDCEA meeting notes [SDCEA](#)** made a request for one million dollars through "earmark request" to the appropriations committee to help fund test well to ascertain available resources for 10 MW geothermal plant south of BV on Mt Princeton. Earmark request was approved by Senator Michel Bennet & John Hickenlooper. SDCEA sent letters of support to Senators, [Ark Valley Energy Future](#), Chaffee County Commissioner Keith Baker, BV Mayor Libby Fay and Tri-State Generation & Transmission. SDCEA to act as coordinating agency on the initial test well project.

**15. 2023-05-16 Article: [Clean Energy gets a boost](#)**- Financing from Empowering Rural America \$10 billion with another billion from Powering Affordable Clean Energy (Pace) program

**16. 2023-06-20** Handout shared with BoCC [Cross Section of Ground Water Resources](#): [www.coloradogeologicalsurvey.org](http://www.coloradogeologicalsurvey.org) Retrieved June 2023 Published 2017

**Article 2022-12-3 - <https://arkvalleyvoice.com/poncha-springs-possible-geothermal-future/>**

**2023 7-18 Article**

<https://arkvalleyvoice.com/heat-beneath-our-feet-initiative-provides-report-on-geothermal-energy-in-western-united-states/>

## Geothermal Fact Sheet

1. Chaffee County [Section 1041 permit](#) necessary for preliminary exploratory drill? Only finances necessary?
2. [Pros & Cons](#) from Energy Perspective
  - P) 1. Environmentally Friendly 2. Renewable 3. Huge Potential 4 Sustainable/Stable 5. Heating & Cooling 6. Reliable 7. No fuel required 8. Rapid Evolution
  - C) 1. Location parameters 2. Environmental Side Effects 3. Earthquakes 4. High Costs 5. High Maintenance for Sustainability
3. [Linquip Technews Pros & Cons](#) Costs: \$2.5-5 million per MW (\$25-50 million for 10 MW Unit) + R & D
4. [How does geothermal energy work?](#) Geothermal energy taps into the thermal energy and radioactive decay leftover from the formation of the Earth.
5. **Online examples & developments referred to and labeled “Misinformation:”**
  - a. 15.3 MW for \$43million: Binary System [NM Lightning Dock Plant near](#) Animas NM owned by CynqEnergy with [Issues](#) as shared in BoCC mtg
  - b. [Puna HI 26 MW](#) unit on Big Island trying to gain additional capacity amidst [health and safety concerns](#) also referred to during BoCC mtg.
6. **Geothermal oversight: Colorado**
  - a. [Colorado State Land Board](#) can offer permits but probably will NOT impede progress
  - b. Colorado [Energy & Carbon Management Commission](#) (Formerly Oil & Gas Conservation Commission) to oversee deep geothermal wells, effective July 1, 2023.
  - c. Colorado [Department of Water Resources](#) [Sept 2004 document](#) and [Geothermal Rules](#) Will probably NOT impede progress
  - d. [Colorado Geological Survey](#) shares geological thermal maps
  - e. [Colorado Geothermal Energy Grant Program](#) House Bill to allocate funds HB22-1381
  - f. [Geothermal Power Leasing](#) in Colorado claims [23 total Bureau Land Management](#) properties with potential
  - g. Interactive Thermal Map:  
<https://coloradogeologicalsurvey.org/publications/interpretive-geothermal-heat-flow-map-colorado/>
7. **Geothermal oversight: New Mexico**  
[Energy, Minerals and Natural Resources Department of New Mexico](#) : “...regulatory agency for high temperature (>250 degrees F) geothermal resource development including injection wells...” Oversees Permits, Hearings, Construction & Operation, Maps, Database and Clearing house of Geothermal information.
8. **Chaffee County Geothermal Since 2013**
  - a. Section 1041 Dovetailed from other counties. ([Article Chaffee County Times/ Mountain Mail April 10, 2013](#))
  - b. [Draft Guidelines Sept 2013](#)
  - c. [With Staff Final comments](#)
  - d. May 21 & July 2, 2013 BoCC mtgs
9. Three types of Geothermal Plants - Binary is the type under consideration. This includes a two fluid system: Hot water and Pentane ([Petroleum product: Hydrocarbon from crude oil and natural gas](#)) Retrieves hot water to heat pentane to turn turbines to generate electricity.

## 10. Federal Facts:

Geothermal Energy Map <https://www.energy.gov/eere/geothermal/geothermal-maps>

Another Geothermal Map

<https://www.americangeosciences.org/critical-issues/maps/interactive-map-geothermal-resources-united-states>

NREL website: <https://www.nrel.gov/gis/geothermal.html>

How do they work: <https://www.energy.gov/eere/geothermal/electricity-generation> Binary is considered

### Highlights:

1. July 21, 2023, Mtn Htgs Church: Informational meeting where 66 local citizens attended a discussion on the potential of SDCEA funding a pilot well, however the County Commissioners claim nothing is happening.

Chaffee County [Section 1041 permit](#) necessary for preliminary exploratory drill?

Of course the SDCEA meeting minutes address it and Bennet's office verifies it.

## **Benefits or Consequences, Needs or Wants**

I'm not sure of the accuracy of claiming "nothing is happening" or in the works. Here are a few facts as reported in public board minutes:

### **January SDCEA Meeting notes**

**Geothermal development** – Board members Dan Daly and Joe Redetzke attended a meeting on potential geothermal energy development in Colorado and the Mt. Princeton area south of Buena Vista. Both expressed support for exploration of the development.

The meeting was convened by the Colorado State University Center for the New Energy Economy and facilitated by former Colorado Governor Bill Ritter and newly appointed Public Utilities Commissioner Tom Plant of Buena Vista. Public officials from Buena Vista, Chaffee County and across Colorado attended the meeting Jan. 17 at Mt Princeton Hot Springs.

### **February**

**Geothermal development** – Board member Dan Daly said SDCEA will take the lead in securing possibly several million dollars in grant funding for a geothermal energy test drill project west of Rodeo Road in the Mount Princeton area south of Buena Vista.

A meeting was convened in January by the Colorado State University Center for the New Energy Economy and facilitated by former Colorado Governor Bill Ritter and Public Utilities Commissioner Tom Plant of Buena Vista. Public officials from Buena Vista, Chaffee County and across Colorado attended the meeting Jan. 17 at Mt Princeton Hot Springs. Daly indicated the entities attending support pursuing this project and potential development of a geothermal plant at the site. He, SDCEA Board Chairman Joe Redetzke and CEO Paul Erickson will head up the measure on behalf of SDCEA.

### **April**

**Geothermal plant development** – A \$1 million earmark request has been sent to the appropriations committee to help fund a test well to determine if resources exist to construct a 10 MW geothermal power plant south of Buena Vista on Mt. Princeton. (I heard this was denied)

The earmark request was approved by Colorado Senators Michael Bennet and John Hickenlooper. Letters of support for the project were sent to the Senators by SDCEA, Ark Valley Energy Future, Chaffee County Commissioner Keith Baker, town of Buena Vista Mayor Libby Fay and Tri-State Generation & Transmission.

SDCEA board members have pledged SDCEA to be the lead coordinating agency on the funding for the initial geothermal test well project.

July 31 SDCEA Meeting Report from Ark Valley Voice:

<https://arkvalleyvoice.com/sdcea-resolves-to-support-geothermal-test-well-near-mount-princeton-discusses-geo-hiring-process-and-possible-rate-restructures/>

## July 31st SDCEA Meeting - Hydrothermal Power Plant

“Director Dan Daly introduced an addition to the agenda at the beginning of the meeting for the board to discuss and potentially confirm a resolution of support for Mt. Princeton Geothermal in their efforts to conduct test drillings (some might refer to them as “proof of concept”) near Rodeo Road and County Road 323.”

It is similar to buying a house. Buying a house is a process and not an event. As a young couple looks for an affordable first home, they go through a process of learning,

Steps to complete or boxes to check.

Here’s my question: When can you say you are actually **“buying a house?”**

1. Determine Location
2. House specs (4 bed, 3 bath, etc)
3. Job history, income, financing, credit scores, pre-approval
4. Enter a contract.
  - a. Agree on terms
  - b. Substantial Earnest Money
  - c. New construction permits
  - d. Loan Applications
  - e. Credit Reports and blemish repairs
5. Inspections
  - a. Building
  - b. Safety
  - c. Well
  - d. Roof
  - e. Septic
  - f. Survey
  - g. Radon etc.
6. Water/well/septic work
7. Physical Repairs/hidden or latent defects
8. Occupancy Permit
9. Title work, clouds, leases, remedies, mortgages, deeds & notes
10. Financing approval
11. Closing Date

When can you actually say we are **“developing a geothermal power plant?”** **After 410 people signed the petition so far!**

2. A geothermal system is destined to fail: Feb 2021: Costs upward of \$210,000 Kw

<https://www.resfrac.com/blog/why-deep-closed-loop-geothermal-guaranteed-fail>

### 3. Recent Press

12/3/20: <https://arkvalleyvoice.com/poncha-springs-possible-geothermal-future/>

[https://www.chaffeecountytimes.com/fred-henderson-pointing-to-the-primary-drill-site/image\\_13a0ccba-18db-11ed-8d47-a3aca38061fc.html?utm\\_medium=social&utm\\_source=email&utm\\_campaign=user-share](https://www.chaffeecountytimes.com/fred-henderson-pointing-to-the-primary-drill-site/image_13a0ccba-18db-11ed-8d47-a3aca38061fc.html?utm_medium=social&utm_source=email&utm_campaign=user-share)

7/06/23: <https://arkvalleyvoice.com/the-debate-over-geothermal-energy-in-chaffee-county-is-just-beginning/>

7/11/23: <https://arkvalleyvoice.com/bocc-hears-public-comments-regarding-conceptual-geothermal-project/> \*\*

7/18/23: <https://arkvalleyvoice.com/heat-beneath-our-feet-initiative-provides-report-on-geothermal-energy-in-western-united-states/>

7/19/23: [https://www.chaffeecountytimes.com/news/local-group-to-host-geothermal-impact-meeting/article\\_febf0410-2653-11ee-ac29-3f2295e5747c.html](https://www.chaffeecountytimes.com/news/local-group-to-host-geothermal-impact-meeting/article_febf0410-2653-11ee-ac29-3f2295e5747c.html)

8/2/23: <https://arkvalleyvoice.com/sdcea-resolves-to-support-geothermal-test-well-near-mount-princeton-discusses-ceo-hiring-process-and-possible-rate-restructures/>

From the Ark Valley Voice as recorded from the BoCC meeting...

\*\* “The commissioners appeared somewhat mystified by the hoopla and while they normally don’t comment on general public comment, in this case, they did. They said the amount of specificity regarding plants and megawatts and disruption described by residents is simply not anything that is in process. In fact, nothing is in the planning phases; there isn’t even any funding for a proof of concept.”

- Funding solicited in letter from K Baker/Senator Bennet for million %
- Verified by Bennet’s office

“This geothermal power plant is not pending,” said Commissioner Keith Baker. “There is a long process we would have to go through before anything would begin.”

“Second, one of the things that guides me and probably my colleagues are the outlines of ecology; the first is nature, and the environment is a web. What impacts one impacts the other,” Baker added, “... There is no such thing as a free lunch. We all want clean air and clean water. We’re concerned about climate change and that might involve geothermal. There will be some costs of some sort ... The payment can’t be avoided, it can only be deferred.”

- The long process is a Section 1041 as published in the Chaffee County Govt Website and revised in 2013 to end the moratorium.
- There was a plan in 2015 for the Poncha Springs area that fell apart. WHY?
- There is renewed interest due to the Inflation Reduction Act money and HBOF campaign from Biden and Polis.

“It would be helpful if we as a county could produce an update as to where we stand with this project – it’s a long way from anything,” said Commissioner Greg Felt. “There are more safeguards available [in Colorado] than the state of New Mexico had. Colorado does have processes in place tied to geothermal wells. I have not seen anything with the level of detail referred to today. So people are speculating. To the extent we can fill in some blanks ... we could do a level-setting exercise and figure out how to proceed as a community from there and have reasonable conversations.”

- Our speculation comes from the public domain. We have provided citations and links to where we get our information.
- We have blended publications, meeting notes and research to build our body of understanding.

- 
- Our petition had 410 signatures as of last night
  - Geothermal is different than Hydrothermal...
  - This board is still in the **market to buy a house?**



Hey Team, **There are benefits for others but consequences for us!**

It seems there is always something going on. Updates on new information, people stepping up and sharing articles, links and renderings that work to boost our position. Here are some ongoing things we can do to:

1. Attend the SDCEA Board Meeting on July 31. You may attend to watch or even speak. SDCEA likes to know how many people to expect. Register to speak for 3 minutes near the beginning of the meeting. After we share, we usually leave and do not stay throughout the entire meeting. I will be sharing on the timeline.
  - a. Print the agenda from this page and see the number to sign up.  
<https://www.myelectric.coop/boardinfo/board-meeting-agendas-minutes/>
2. The Board of County Commissioners meets on three Tuesdays per month. I plan to attend the August 8 and August 15.
3. The nearest subdivision was given this attachment a few years back. Pretty clear indication of their intentions.

We have heard about the noise. We see the footprint. We also know what is currently in existence across the nation.

How is the letter writing going? We are fielding press calls about our crusade. People are astounded that this type of project is even being considered. We shall keep applying pressure and letting people know about this project.

Thank you for your support.

12 + 2 resources for Geothermal

1. *Geothermal Power is Safe:*  
[https://www.chaffeecountytimes.com/opinion/letters\\_to\\_editor/geothermal-power-is-safe/article\\_f785fe9a-3427-53bf-9cb2-0059ce4ddb13.html](https://www.chaffeecountytimes.com/opinion/letters_to_editor/geothermal-power-is-safe/article_f785fe9a-3427-53bf-9cb2-0059ce4ddb13.html)
2. *Geothermal Questions* Aug 26, 2009  
[https://www.chaffeecountytimes.com/opinion/letters\\_to\\_editor/geothermal-questions/article\\_f26157fc-af32-5fff-ba0f-a65290d727ef.html](https://www.chaffeecountytimes.com/opinion/letters_to_editor/geothermal-questions/article_f26157fc-af32-5fff-ba0f-a65290d727ef.html)
3. *Geothermal Article* Sept 30, 2009  
[https://www.chaffeecountytimes.com/opinion/letters\\_to\\_editor/geothermal-questions/article\\_f26157fc-af32-5fff-ba0f-a65290d727ef.html](https://www.chaffeecountytimes.com/opinion/letters_to_editor/geothermal-questions/article_f26157fc-af32-5fff-ba0f-a65290d727ef.html)
4. *Getting into Hot Water* June 16, 2013  
[https://www.chaffeecountytimes.com/news/getting-into-hot-water-chaffee-county-businesses-use-geothermal-energy/article\\_0629eeb8-d466-11e2-a7fd-0019bb30f31a.html](https://www.chaffeecountytimes.com/news/getting-into-hot-water-chaffee-county-businesses-use-geothermal-energy/article_0629eeb8-d466-11e2-a7fd-0019bb30f31a.html)
5. *Commissioners continue hearings* Sept 4, 2013  
[https://www.themountainmail.com/free\\_content/article\\_1af7dc7a-156f-11e3-83e7-001a4bcf6878.html](https://www.themountainmail.com/free_content/article_1af7dc7a-156f-11e3-83e7-001a4bcf6878.html)
6. *Held holds geothermal's promise* Aug 11, 2022  
[https://www.chaffeecountytimes.com/news/held-holds-geothermal-s-promise/article\\_7c5b74d6-18da-11ed-b0ba-2bf1b01d6613.html](https://www.chaffeecountytimes.com/news/held-holds-geothermal-s-promise/article_7c5b74d6-18da-11ed-b0ba-2bf1b01d6613.html)
7. *Geothermal energy convening group* Jan 21, 2023  
<https://arkvalleyvoice.com/geothermal-energy-convening-group-meets-at-mt-princeton-event-center/>
8. *Beginning to answer* Jan 30, 2023  
<https://arkvalleyvoice.com/beginning-to-answer-colorado-geothermal-energy-questions/>
9. *Huge Crowds* July 4, 2023

<https://arkvalleyvoice.com/huge-crowds-attend-buena-vista-fourth-of-july-parade/#:~:text=Massive%20crowds%20lined%20East%20Main%20Street%20to%20watch,one%20thousand%20people%20lining%20the%20streets%20to%20watch>.

10. *The debate over geothermal energy* July 6, 2023  
<https://arkvalleyvoice.com/the-debate-over-geothermal-energy-in-chaffee-county-is-just-beginning/>
11. *BoCC hears public comments* July 14, 2023  
<https://arkvalleyvoice.com/bocc-hears-public-comments-regarding-conceptual-geothermal-project/>
12. *Local Group to host* July 19, 2023  
[https://www.themountainmail.com/news/community/article\\_7019bc64-25b8-11ee-8d95-37ec8bbf9c08.html#:~:text=A%20local%20group%2C%20BV%20Community%20for%20a%20Pristine.reject%20the%20proposed%20plant%20and%20test%20well%20location](https://www.themountainmail.com/news/community/article_7019bc64-25b8-11ee-8d95-37ec8bbf9c08.html#:~:text=A%20local%20group%2C%20BV%20Community%20for%20a%20Pristine.reject%20the%20proposed%20plant%20and%20test%20well%20location).
- A. *Locals push back* Sept 12, 2020  
[https://gazette.com/news/locals-push-back-against-nestl-s-attempt-to-keep-bottling-water-near-buena-vista/article\\_a70212e4-f2df-11ea-b69e-5f050cf3efac.html](https://gazette.com/news/locals-push-back-against-nestl-s-attempt-to-keep-bottling-water-near-buena-vista/article_a70212e4-f2df-11ea-b69e-5f050cf3efac.html)
- B. *Burning Man sues BLM* Jan 2023 (one of many articles w similar titles and topic)  
<https://www.rgj.com/story/news/2023/01/12/burning-man-sues-blm-over-approval-of-geothermal-exploration-project-in-gerlach/69800898007/>
- C. *Lessons from Pohang* May 2019  
<https://www.technology.org/2019/05/27/lessons-from-pohang-a-stanford-geophysicist-discusses-geothermal-energys-earthquake-problem-and-possible-solutions/>
- D. *Seismologist David Oppenheimer* Sept 2010  
<https://www.scientificamerican.com/article/how-does-geothermal-drilling-trigger-earthquakes/#:~:text=Seismologist%20David%20Oppenheimer%20of%20the%20U.S.%20Geological%20Survey,trapped%20in%20its%20pore%20spaces%20and%20natural%20fractures>
- E. Chaffee County [Section 1041 permit](#) Home page
- F. County Releases geothermal regs April 10, 2013  
[https://www.chaffeecountytimes.com/news/county-releases-geothermal-regs/article\\_8afc5600-a232-11e2-bb47-001a4bcf6878.html](https://www.chaffeecountytimes.com/news/county-releases-geothermal-regs/article_8afc5600-a232-11e2-bb47-001a4bcf6878.html)
- G. Yellowstone:  
<https://www.usgs.gov/observatories/yvo/news/why-cant-we-drill-yellowstone-stop-eruptions-and-make-power>
- H. Geothermal Plant near Salmon River Oct 2015  
[https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article\\_5dc68106-7cff-11e5-9bfd-cf5e26459243.html](https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article_5dc68106-7cff-11e5-9bfd-cf5e26459243.html)
- I. USGS Forest service Critical March 2018  
<https://www.thinkgeoenergy.com/u-s-forest-service-critical-to-geothermal-project-proposed-in-idaho/>
- J. Guaranteed to fail Feb 2021  
<https://www.resfrac.com/blog/why-deep-closed-loop-geothermal-guaranteed-fail>
- K. Colorado Geothermal (State Land Board)  
<https://slb.colorado.gov/lease/geothermal>

Extra: (search Geothermal on the [Chaffee County Times search page](#) for even more articles)

Young Life Geothermal Lease: May 1, 2013

[https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-lease-terminated-for-nonpayment/article\\_6b332d5c-b291-11e2-9320-001a4bcf6878.html](https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-lease-terminated-for-nonpayment/article_6b332d5c-b291-11e2-9320-001a4bcf6878.html)

New findings raise prospects Jan 23 2013

[https://www.chaffecountytimes.com/news/new-findings-raise-prospects-for-local-geothermal-energy-company/article\\_7724fd10-658f-11e2-9210-0019bb30f31a.html](https://www.chaffecountytimes.com/news/new-findings-raise-prospects-for-local-geothermal-energy-company/article_7724fd10-658f-11e2-9210-0019bb30f31a.html)

Heat Beneath our Feet initiative July 18, 2023

<https://arkvalleyvoice.com/heat-beneath-our-feet-initiative-provides-report-on-geothermal-energy-in-western-united-states/#:~:text=At%20the%20annual%20meeting%20of%20the%20Western%20Governors.after%20Polis%20assumed%20the%20chairmanship%20of%20the%20WGA.>

The cost of deploying geothermal power plants is heavily skewed towards early expenses, as there are no fuel purchasing costs once the plant is up and running. According to Lazard's LCOE analysis, the upfront cost to build a geothermal energy plant is between \$4,000 and \$6,000 per kilowatt-hour (kWh). Utility-scale solar energy maxes out at \$1,250/kWh, and wind maxes out at \$1,550/kWh, making geothermal electricity significantly more expensive upfront than other common renewable options. Even compared to combined-cycle gas plants, geothermal energy is four to six times as expensive initially.

The high upfront development costs associated with geothermal power plants is largely a function of the difficulty and cost of drilling deep into the earth to access geothermal reservoirs.

<https://www.energysage.com/about-clean-energy/geothermal/pros-cons-geothermal-energy/>

Makes it seem more like a trophy than a necessity. There are benefits for others but consequences for us

#### **Next Email for the July 21 Team**

Boise uses geothermal heat to heat a lot of their downtown area. Their main well is in the south western part of the state in a remote area. The nearest town is 18 miles away and there are only a few homes and farms nearby.

Idaho had Ormat propose a new site back in 2015. I do not think that this site got developed. There were a lot of arguments against it, including the US Forest Service! Though maybe we could learn a few things from how they fought it.

[https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article\\_5dc68106-7cff-11e5-9bfd-cf5e26459243.html](https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article_5dc68106-7cff-11e5-9bfd-cf5e26459243.html)

<https://www.thinkgeoenergy.com/u-s-forest-service-critical-to-geothermal-project-proposed-in-idaho/>

It was a day filled with mixed emotions. Out of the 8 guests, 4 were there representing opposition to a Geothermal Plant at the end of Lost Creek drive. One speaker addressed the rate formula and another the China v. World ratios of coal powered energy sharing that China is working against the world in terms of their carbon footprint. A call-in speaker addressed a financial grant available for rural organizations. A few spoke in opposition to the Geothermal plant at the end of Lost Creek.

**Positively**, Lisa shared the saga from her brother who has actually visited the [Lightning Docks Energy](#) plant in SW New Mexico. Tom shared an update on the [Petition progress](#). We are up to 321 signatures at the time of this writing, August 1st. (It is good to have people you connect with log their opposition on the petition since the count is done automatically.) Blane shared from the financial perspective. After he spoke, one member mentioned the **(\$1,000,000)** million dollars they were asking for on behalf of this project was REJECTED. Jerry and Jayne were also in attendance offering support.

**Posing a challenge** to our work, the [SDCEA](#) has published mixed messages on how to speak and attend the meetings. It seems to stem from limited (12 persons) seating. Therefore, they would like to have members who wish to speak, pre-register via email or phone. Although, they have broken their own rule and allowed guests to speak that DID NOT pre-register. These guests just wrote their names on the sign-in and addressed the board when called. Additionally, it seems like a continual uphill battle. There are a few of us that attend regularly but an increase in numbers would really help the volume of our message. Therefore, please plan to attend ahead of time and register for the opportunity to speak.

### What else can you do?

1. Commit to working the Gold Rush Days, wearing your Red, White and Blue and asking people to sign the petition online or live on a clipboard. Both of those methods tally opposition. Reply to this email to express interest in volunteering. Thank you.
2. Recommend a geologist willing to advocate in our continued opposition with additional science.
3. Post our [Petition](#) on your social media sites: *What's happening...* and *What's Really happening...* *linked-in*, X, etc... Then let us know of the feedback or comments as posted. Also review the comments on the [Petition page](#) as posted by other signees.
4. [Email the board members of SDCEA](#) with a letter as well as send a letter to the local print newspapers.
5. Commit to share with the BoCC next Tuesday at 9:00 in Salida. Plan to attend a few minutes early, sign in and then share 3 minutes when called.
6. Write **another** letter to the editor. In this letter, reply to an article, share your opinion of objection or quote facts from your research.
7. Make a contribution: <https://account.venmo.com/u/Jinohn>
8. Read and highlight these linked articles:
  - a. A good resource of their perspective:  
[https://www.chaffecountytimes.com/opinion/letters\\_to\\_editor/geothermal/article\\_254d1021-1027-5d14-8b8f-6acaa40afc39.html](https://www.chaffecountytimes.com/opinion/letters_to_editor/geothermal/article_254d1021-1027-5d14-8b8f-6acaa40afc39.html)
  - b. [https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article\\_5dc68106-7cff-11e5-9bfd-cf5e26459243.html](https://www.mtexpress.com/news/environment/geothermal-plant-proposed-near-salmon-river/article_5dc68106-7cff-11e5-9bfd-cf5e26459243.html)
  - c. <https://www.thinkgeoenergy.com/u-s-forest-service-critical-to-geothermal-project-proposed-in-id-aho/>
    - i. [https://www.mtexpress.com/news/environment/forest-service-plans-to-deny-geothermal-plant/article\\_0df66a28-2302-11e8-8598-eb6375e58a40.html](https://www.mtexpress.com/news/environment/forest-service-plans-to-deny-geothermal-plant/article_0df66a28-2302-11e8-8598-eb6375e58a40.html)
  - d. <https://www.colorado.gov/governor/news/10371-harnessing-heat-beneath-our-feet-renewable-energy-new-report-western-governors>

- e. <https://www.renewableenergymagazine.com/geothermal/report-from-wga-chairman-gov-jared-polis-20230630>
  - f. Arizona is also ahead of us in this quest:  
<http://www.azgs.arizona.edu/energy/geothermal-arizona>
  - g. Arizona Closed power plants:
    - i. <https://www.azcentral.com/story/news/local/arizona/2022/07/12/navajo-generating-station-closure-hurt-communities-residents-say/10027935002/>
    - ii. <https://www.nsenergybusiness.com/projects/cholla-power-plant-arizona/>
  - h. Other water issues:  
<https://arkvalleyvoice.com/100-million-in-funding-comes-through-for-arkansas-valley-conduit/>
9. Share other articles back to us on geothermal energy

Please. Stay. POSITIVE. Remember [Horton Hears a Who](#)?!!!! It is an UPHILL battle. In this classic, it really takes everyone to come together to make THEIR voices heard. We must continue, even when it looks like there are no options, choices or opportunities.

Winners are MADE in the crucible of battle! [Press on](#). Calvin Coolidge

Persistently

Tom and the rest of the Team.

**Next email after 8/1/23**

Comments from Blane: Just heard from an anonymous source that Dan Daly at SDCEA made a motion this afternoon to work on Grant funding for the test wells. This motion passed with 2 dissenting members. So the appearance of transparency is short-lived !



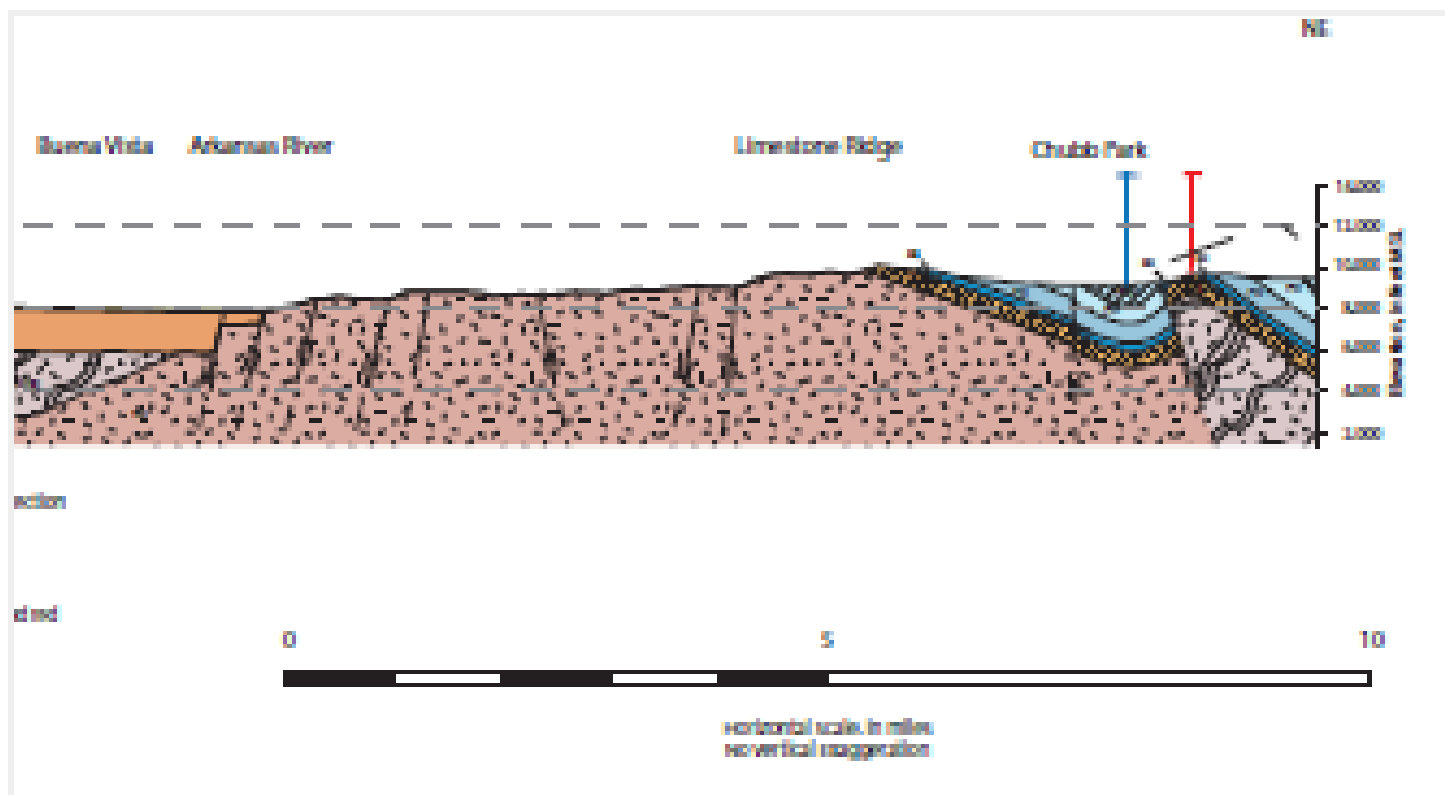


Figure 2.

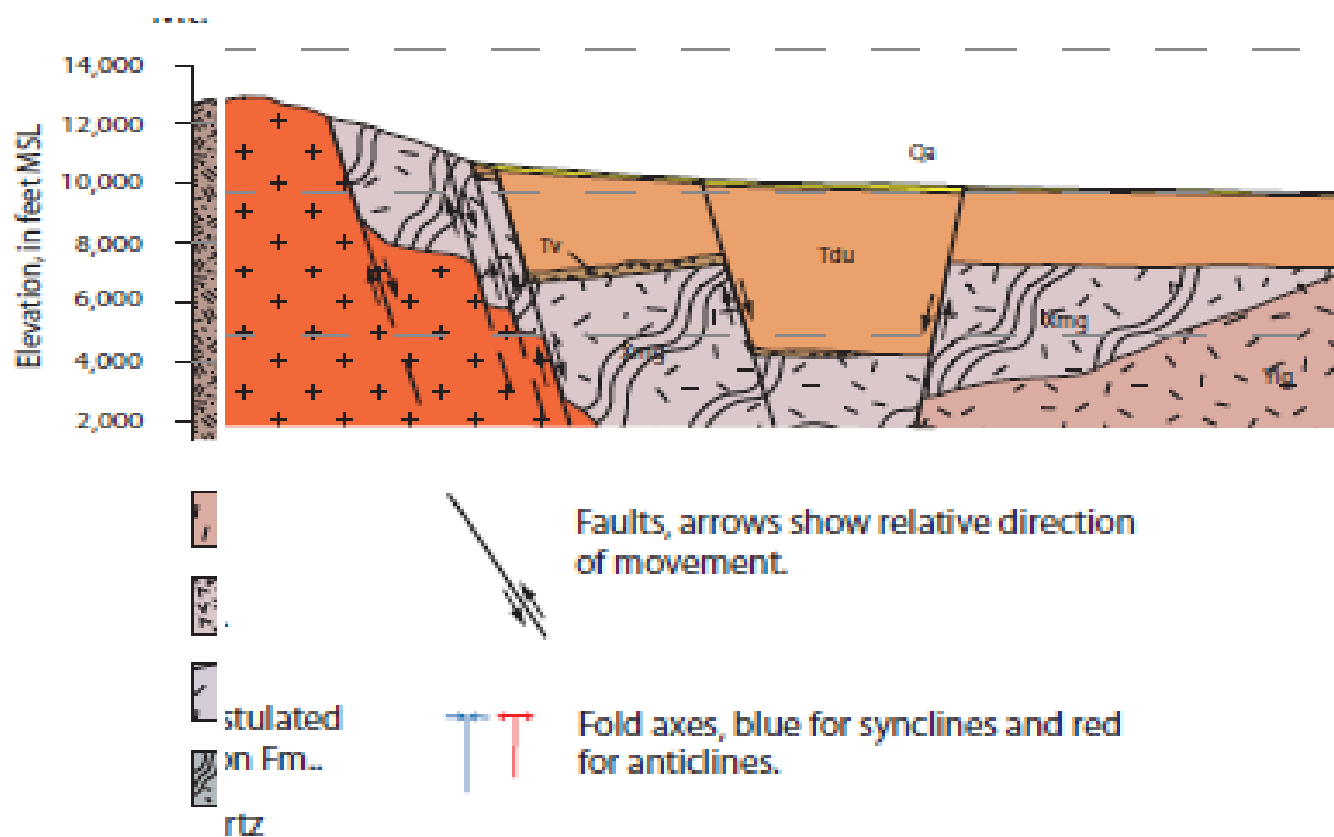


Figure 3.

Tracy, this is some steam of consciousness notes. Please disregard any errors or confusion.

- a. Critical Fault along side the rift called Graven. Faults there is where all the geothermal activity is coming up along this west fault. Hydrothermal flow underground and geothermal heat on the surface. Not with a hot rock. Yellowstone is different than this area and caused by surface water seeping into the hot rocks and the steam pressure and surface water.
- b. Here, surface water has nothing to do with the water. Those faults go all the way into the magma and mantle and under tremendous pressure the origin is down there and might pool. Near the surface is geothermal and deep is hydrothermal. Hot water underground.
- c. We know bcs of the hydrothermal and the rift is active
- d. Scarp, ground is slipping away and active and healthy and moving and dynamic. Inches to feet,
- e. Slip Points and major slips.
- f. Side Fact: More worried about the slip points between the slip points over the drilling. The second most volatile fault to get to 7-8 magnitude. We can't mention the tension. A faultologist would
- g. San Andreas fault. This is a vertical
  - i. USGS is watching this site as a vertical fault systems. A given crack may only be a short linear, a crack is a fault that is moving from one side to the other... The cracks still moving .
- h. Some of these are active and being pushed up. They can pop
- i. Faults at the base of the west horst. 3-5, all the way to the top
- j. Hinged Graven, looks like a fulcrum on the east side.
- k. Standard Graven north of granite to leadville
- l. Next Hinged graben
- m. East and West Horst... All is basement igneous rock , solid when what made as crust, basement rock,
- n. This will shrink and cause extra fissures and fractures. Many intrusions are plugged up and the ground water can go in and go down.
- o. Some hydrology dynamics
- p. Between the horst, we have the graben, we have a mix of two things, the tension forces .
- q. Other graben , 3000 feet of fill on the east side.
- r. Faultology of South Park.
- s. Graben is fill, one type or another, the original rocks deep and glacial till.
- t. Some till (fill) but compacted and fill fell in and then the glacial force
- u. Glacial force not below 8,000. All of this granitic rock
- v. No big hole in the ground with a hydrothermal lake, but like a aquifer,
- w. Spaces and gaps looking for hydrothermal
- x. The one around Pancho was better but too small
- y. If they draw out of hydrothermal that has pooled.
  - i. Different than drilling through solid rock like the horst rock,
  - ii. Granite is 14% porous
  - iii. Fill,
  - iv. Glacial till is deep and the bigger the rocks, the more space between them as they sit together.
  - v. Huge bowls of granite in the way down and it continues below the surface,
  - vi. Barbara Whipple hiking.
  - vii. Large Cavities could be formed
- z. Less glacial material on the east side bcs the west side had features flowing out
- aa. Lateral Moraine bcs they went all the way across the valley.



- i. **South of Granite, the North Lateral moraine, short of the pine creek**
  - 1. **Pressure from the glaciers coming out and only the the EAST SIDE.**
  - 2. **Stone Bridge**
  - 3. **Peninsula**
  - 4. **Piedmonts out from the base of the mountain.**
  - 5. **Planation surfaces (NOT QUESTION)**
  - 6. **North edge of Mesa Antero**
  - 7. **Lower first cut is south lateral moraine with glacial till on top but**
    - a. **The closer to the**
  - 8. **Small planation surfaces between there and Pancho**
  - 9. **Form perpendicular to the direction of the water. The points are violently formed.**
- ii. **Two volcanic centers near us, Grizzly Caldera, the north edge of the Grizzly Caldera, 14 miles across, Taylor North Swatch, Grizzly Peak is NOT a volcanic Remnant, The actual center is the the south and East, BUT NOT A VOLCANIC**
- iii. **Elk Range**
- iv. **Sacora Cracks, North South Rail line, Magma Plume Rising, Was at 2 miles as freshmen and 9,000 while graduating.**
- v. **Some day, this will POP but before, there will be new SCARPS, and minor faults,**

**bb. From what we gather, they plan to drill on the picture above the "F" in the word fault in the middle of the graphic. Would drilling this close to the fault exacerbate the stress found under ground here.**

**cc. I have heard many things. Like this is a rift zone but there are fault lines labeled on the cut away. How do we reconcile that differing terminology?**

**3. Describe how water might flow around under this setting in Chaffee County? Our residential wells are about 300 feet. They want to drill a test well up to 2400 feet. (This does not fall under the Section 1041 rules for Geothermal in the valley, so they think they can do that with impunity.) Do we have any recourse if something happens to our wells? There are 366 within 2 miles and 1900 within 5 miles**

**4. Is there hot water that deep or is it hot rock heating the water and sending it to the surface?**

**Water will collect in the cavity and then pump that back  
15,000 feet of fill**

**Rift after the name activity of the rift, from the top of the graben to the tops, 25,000  
15000 fill**

**Sand Dunes,  
3 miles,**

**Drilling done, a mile off the top of the mosquitoes range  
Instructions and precious**

**Pressurization and tumbling in**

**5. How are they getting the hot water out of the ground? Deep pump or Pressure?**

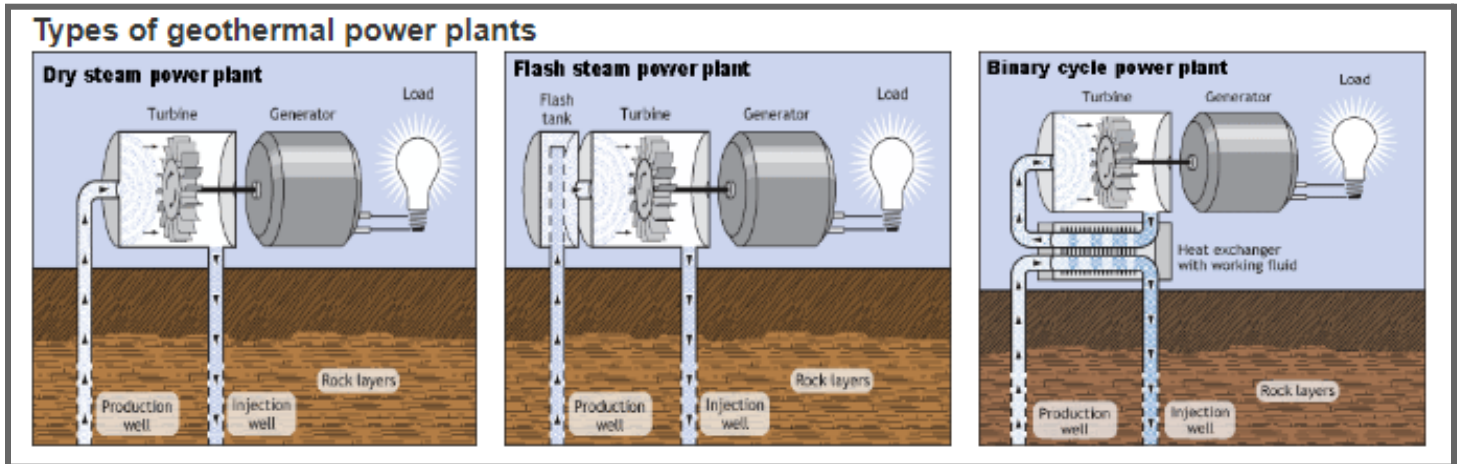
**6. Is there a hollow or water filled reservoir below the ground that they expect to get water from?**

6. How can pumping equipment operate in those high temps if they are not fracking and forcing the water back up to the surface?

- a. Here is a 9 page file of what <https://mtprincetongeothermal.com/> think they were proposing a few years ago for right outside our subdivisions. I am not sure if things have changed since then but those of us who live here are intimately familiar with this location and potential impact to our homes.

[https://drive.google.com/file/d/1XY9XaSh4zrH-gmkFxDgQOloES7cpNWNq/view?usp=drive\\_link](https://drive.google.com/file/d/1XY9XaSh4zrH-gmkFxDgQOloES7cpNWNq/view?usp=drive_link)

7. They call it a binary system but describe something else: (Do we really have Rock Layers as shown?)



Thank you for agreeing to share your experience with us. We feel outgunned, outnumbered and outfinanced, but we are NOT discouraged. We know many causes that were started with just a few.

Here is a link to the slides we shared at the last public meeting, July 21 where 66 citizens attended.  
<https://docs.google.com/presentation/d/1zxWszHqKjOEM0L70LAD5yvtvg1LtPlv79MBDlpGMS3uE/edit?usp=sharing>

Talk soon.

Tom McCracken  
6363589268

1. May I ask you a question: When do you plan on moving?
  - a. We all had a different answer but a thought process went through your minds of all the things necessary for you to transition to the next season of life.
  - b. Even those that thought they were happy where you were, there was a confirming question verifying the best place is right there.
2. But those of you with a goal to move thought about many things. See the list on **page two** please.
  - a. Add to that list all the things you need to do to sell **or even better, build** the house.
    - i. Clean up
    - ii. Hire contractors, GC, lot, plans, landscaping, architect, permits, well, septic...
    - iii. Interview Realtors
    - iv. Clean up and Stage
    - v. Find a new place to go
    - vi. Pick a realtor, price and terms for listing and put in on the open market.
    - vii. Market the property
      1. Flyers,
      2. Open houses
      3. Showings
      4. Internet presence
      5. Discuss offers
    - viii. Then negotiate a **contract to purchase**.
    - ix. Buyers will jump through hoops
    - x. Sellers may make repairs, physically, to the title or deed, radon, etc
3. Here I have the 9 page listing sheet of a project sketched out to go near the intersection of 323 and 321.
  - a. This is like the house brochure.
4. Here I have one of the many articles published on this project: **Held holds geothermals promise** from Aug 2022 in the Chaffee County Times. This is like securing the lot.
  - a. After an 1.5 hour conversation with a geologist last night pertaining to this project exactly, I have learned even more about this situation.
  - b. By the way, this picture is not the same as the pictures represented on the brochure.
5. We have a building, project or house plans. We have a possible build site. Our next step is FINANCING.
6. **Page one** of your handout lists a few of the recent highlights from the SDCEA board meetings.
  - a. It looks like SDCEA is helping secure the financing.
  - b. They are **attending meetings, drafting letters** and trying to **secure financing** for the test drill.
7. When you replied to a prior meeting, you mentioned "**This geothermal power plant is not pending.**" discussing a free lunch, impacts, and payments.
  - a. We are not asking for a free meal. We are asking the location be adjusted.
  - b. It was at one time slated for development in Poncha
8. As of last night, our online petition had 410 signatures.
9. ~~Tracer, an online SOS site that records donations is interesting.~~
10. After an hour and a half discussion with a local geologist, I learned we (not you) live at the edge of a **hinged graben fault**. The tension here is under observation by the USGS. This earthquake threat is the greatest and highest risk involved in this entire situation.
11. Conclusion: Maybe there is no Section 1041 in place but a process has begun
12. My final question, **what stage of the process are we actually in?**

## Pristine Princeton without Geothermal Issue #08

### Oh Boy!

Again, a few of us spoke to the Board of County Commissioners today in Salida. THANK YOU. We heard an impassioned plea from a true generational Colorado Native. We asked for accountability. We shared why it is destined to [fail](#). We related the process of developing a geothermal (Hydrothermal?) power plant to buying or building a house and all the steps necessary to complete the process. We heard about the HH document supplied that sketches out the MPG plan. THEN, they could not help but reply to all our Public Comments! After exclaiming that Colorado is the “Gold Standard,” they strove to defend their position. Of course, we know there is no application, no proposals and nothing to act on. They did explain their terminology and called misinformation different than disinformation. (Disinformation, he called “the blatant lie” but misinformation, he called just not knowing “the truth.” He admitted that he was NOT claiming we shared disinformation!) Of course, we can source everything we claim from the Public Comment Seat.

They continued with a Section 1041 exclaimer, noting they would follow those protocols if they received an application, also applying the Land Use Code and scrutiny in their decisions. “Similar to the Nestle situation...” Baker made the most comments and Wood and Felt agreed, adding little. They wanted to wait until they had an application to set up hearings at that time, so they could “remain impartial” and not have our battle go to a higher authority due to a biased or tainted perspective. . Even their staff attorney, D Tom, added a comment about following procedures and managing the process.

It was interesting that they spent so much extra time responding to the Public Comments. Well done. They must be sick and tired of hearing from us. After all the positive press that seems to gush over the project, there seems little push back from an alternate perspective. That is where we all come into play. It is vital that people get a chance to see the entire project and not just what the narrative pushes. Maybe our local papers will provide some balance? Maybe?

We do NOT want this to become a CONSENT item with no more room for public comments. Therefore, we will continue.

**SATURDAY and SUNDAY, PLEASE** commit to coming to the Geothermal Tent for a few hours at McPhelmy Park. We will have a tent with tables and banners and information, along with the link to sign the online petition or paper versions as well. Jayne will demonstrate how to engage John and Jane Q Public. It is good to watch.

**Next TUESDAY in Buena Vista, another BoCC** meeting like today. Of course they would love NOT to hear from us. At the Community Center at 9:00 am.

Here are a couple of links to the recent letters to the editors: [Blane](#) and [Eagle View](#) (We need one from Lost Creek Ranch as well! Anyone?)

## NEXT Bo CC TALK

Three things

1. From the [Section 1041 rules](#): Depth 1500, 2400, 2500
2. Definitions about geology from Geologist
  - a. Rift
  - b. Graven
  - c. Horst
  - d. Hinged Graven
  - e. Hydrothermal Flow
  - f. Geothermal Flow
  - g. Magma
  - h. Scarp
  - i. Slip points and major slips
  - j. Vertical fault here in BV
  - k. Horizontal Fault in San Andreas
  - l. Under Tension
  - m. Intrusions
  - n. Hydrology Dynamics
  - o. Till (fill)
  - p. Granitic Rock
  - q. Aquifer
  - r. Poncho had potential site but revoked
  - s. Granite is 14% porous at the bottom
  - t. Ground granite at the surface
  - u. Glacial Till
  - v. Cavities
  - w. Glacial Material on the West Side and AR river on the East
  - x. Piedmonts
  - y. Peninsula
  - z. Planation Surface
  - aa. Lateral moraine w Glacial till on top
  - bb. Volcanic Caldera

### 3. Why sign a letter of support if you are striving to remain unbiased?

- a. Do you need to recuse yourselves from this potential application because you have already been involved with letter writing to secure financing, planning meetings or presentations about the plans.

The SDCEA meeting notes from **April 2023 quote: Retrieved Aug 7, 2023**

**Geothermal plant development** – A \$1 million earmark request has been sent to the appropriations committee to help fund a test well to determine if resources exist to construct a 10 MW geothermal power plant south of Buena Vista on Mt. Princeton.

The earmark request was approved by Colorado Senators Michael Bennet and John Hickenlooper. Letters of support for the project were sent to the Senators by SDCEA, Ark Valley Energy Future, Chaffee County Commissioner Keith Baker, town of Buena Vista Mayor Libby Fay and Tri-State Generation & Transmission.

SDCEA board members have pledged SDCEA to be the lead coordinating agency on the funding for the initial geothermal test well project.

**Next email: Pristine Princeton without Geothermal Issue #09**

### **Time, Treasure or Talents What can you contribute to this cause?**

Why does someone defend their perspective so energetically? You decide.

The BoCC wants to remain objective, neutral and able to hear without bias, the potential case.

We are reaching out and looking forward to great conversations on Saturday and Sunday about the prospective plans. Please join us.

The SDCEA resolution: <https://www.myelectric.coop/wp-content/uploads/Resolution-No.1-July-2023.pdf> Here the vow their undying support for MT Princeton Geothermal to drill a test well, even working to secure financing.

Our report from the last BoCC meeting in the Ark Valley Voice:

<https://arkvalleyvoice.com/chaffee-bocc-clarifies-silence-on-the-geothermal-brouhaha/>

They AGAIN broke their silence to claim they wanted to stay silent until they actually got an application and were to follow the Section 1041 processes. However, it looks like they are already involved with the project, drafting letters and working to secure financing. Hmmm.

We are making an impact on this community. Please join the Gold Rush Days to see her in action and join in that same fun.

**Pristine Princeton without Geothermal Issue #10**

AFTER GOLD RUSH DAYS:

## Consequences without Benefits

In case you have not heard, we have topped 1000 signatures on our live and online petitions. This is ONLY due to the efforts of those working the booth, others who shared the petition link online and those attending meetings and sharing the link with their close friends! I don't know how to say a passionate thank you but here it goes: THANK YOU!

What's next? **A serious letter writing campaign.** We are out there and people know about our stance. Now let's continue to supply facts, information and comparisons. Share the facts about costs, water usage, geology and plans. Supply information about the tentative plan and how it could impact our environment. Finally, bring up other geothermal and hydrothermal plants and compare their impacts with this potential plan here.

Get together with a few others or work independently and share your thoughts. Feelings are nice but try and cite facts and figures to balance the perspectives. It could be that you work with another team member that can offer the balancing influence to the letter writing.

I know of two letters submitted already. I know one got published already (with typos added). Please send me a copy as well to verify the accuracy. (sort of a poor man's patent) so when they try and make it look like we're not smart, we can verify that as well.

For instance, last week, I did have a reporter email me asking for an interview. I said "Yes." Partially because I wanted to scold the newspaper for NOT proofing their work. As a school teacher, I struggle to accept work with blatant errors! Regardless, here are a few facts but there are many more. Search any prior email, pick some favorites and focus on one or two topics.

### Facts:

1. SDCEA is trying to secure financing for the private venture.
2. Look up any prior Ark Valley Voice or Chaffee County Times for resources.
3. Grab an article and pull a few bullet points
4. Here's another good source: *A geothermal system is destined to fail*: Feb 2021: Costs upward of \$210,000 Kw <https://www.resfrac.com/blog/why-deep-closed-loop-geothermal-guaranteed-fail>
5. Early tentative plans call for a 10 MW plant. Here's a snippet from Energy Sage.  
The cost of deploying geothermal power plants is heavily skewed towards early expenses, as there are no fuel purchasing costs once the plant is up and running. [According to Lazard's LCOE analysis](#), the upfront cost to build a geothermal energy plant is between \$4,000 and \$6,000 per kilowatt-hour (kWh). Utility-scale solar energy maxes out at \$1,250/kWh, and wind maxes out at \$1,550/kWh, making geothermal electricity significantly more expensive upfront than other common renewable options. Even compared to combined-cycle gas plants, geothermal energy is four to six times as expensive initially. The high upfront development costs associated with geothermal power plants is largely a function of the difficulty and cost of drilling deep into the earth to access geothermal reservoirs. Makes it seem more like a trophy than a necessity. There are benefits for others but consequences for us.  
<https://www.energysage.com/about-clean-energy/geothermal/pros-cons-geothermal-energy/>
6. Laws exist to protect Yellowstone, the most volatile caldera site in the nation, hydrothermal drilling activity. How come our local industries and Mt Princeton is not afforded those same protections?  
<https://www.usgs.gov/observatories/yvo/news/why-cant-we-drill-yellowstone-stop-eruptions-and-make-power>
7. Another geothermal plant, Lightning Docks in New Mexico, is now under its third owner. Underperformance and water table issues exist

The dangers of living near a hydrothermal power plant vary depending on the specific plant and its location. However, some common dangers include:

- Exposure to toxic gasses and chemicals. Hydrothermal power plants emit a variety of gasses and chemicals, including hydrogen sulfide (H<sub>2</sub>S), sulfur dioxide (SO<sub>2</sub>), and ammonia. These gasses can be harmful to human health, even at low levels. H<sub>2</sub>S is especially dangerous, as it can cause respiratory problems, headaches, nausea, and even death.
- Risk of accidents. Hydrothermal power plants are complex facilities with a lot of moving parts. There is always a risk of accidents, such as explosions, fires, and spills. These accidents can release harmful chemicals into the air and water, and can also cause physical injuries.
- Land use changes. Hydrothermal power plants often require the construction of dams and pipelines, which can disrupt the natural landscape and displace wildlife. The plants can also emit heat and noise, which can impact the quality of life for people living nearby.

The specific dangers of living near a hydrothermal power plant will depend on the specific plant and its location. It is important to do your research and talk to local residents before deciding whether to live near a hydrothermal power plant.

As for how close you can live to a hydrothermal power plant, there is no one-size-fits-all answer. The safe distance will vary depending on the specific plant and its emissions. However, it is generally recommended to live at least 1 mile away from a hydrothermal power plant. This will help to reduce your exposure to harmful gasses and chemicals.

It is important to note that the dangers of living near a hydrothermal power plant can change over time. As the plant ages, it may become more likely to experience accidents or malfunctions. It is important to stay up-to-date on the safety of the plant and to be prepared to evacuate if necessary.

It is also important to do your research and talk to local residents before deciding whether to live near a geothermal power plant. You should also be aware of the potential dangers and take steps to protect yourself and your family.

Here are some additional tips for living near a geothermal power plant:

- Keep windows and doors closed when the plant is operating.
- Install an air purifier in your home.
- Monitor air quality reports and take precautions if levels of harmful gasses are high.
- Be aware of the risks of accidents and be prepared to evacuate if necessary.
- Talk to your neighbors about their experiences living near the plant.

By following these tips, you can help to reduce the risks of living near a geothermal power plant.



## Pristine Princeton without Geothermal Issue #11

This day job... As I gear back up and get my mind prepared to be back in the classroom, it soothes my heart to hear about days like today! You all are amazing. Wait to you hear about all we have below!

First off, these BOCC meetings are becoming the highlight of the day! Brian led off with the facts like they have never heard. Blane shared about the pressures from the front range. Jayne reminded them to be polite and NOT get up and walk around while she is handing out sas!. Lisa talked about the risk surrounding the proximity to their gas line... Bart wondered if it was a Gold Standard or really just a Lead Standard. Genevieve shared some real consequences about how actual test wells impacted her neighbors in Nathrop. It seemed like the sparks just kept going. Dial in on that target!

Second, the BOCC discussed a Geothermal Energy Meeting next Tuesday. Strangely, nobody I know is actually invited. Apparently you have to be pretty special to get an invite. We'll keep pursuing those details and share those out if available in time. It might be interesting to crash their party, or at least make our voice heard?!?!?

Third, August wrote up another article for Ark Valley Voice.

<https://arkvalleyvoice.com/geothermal-energy-part-i-getting-up-to-speed-on-the-geothermal-energy-debate-in-chaffee-county/>. It features the July 4 parade float and lots of... ( you decide ) and <https://arkvalleyvoice.com/tag/geothermal-energy-debate-in-chaffee-county/>

It looks like we are over the target and they are selling newspapers with this battle. People we met over the weekend at the Gold Rush Days were NOT happy about the entire project.

Fourth, Thursday, there will be an OPEN HOUSE COFFEE at SDCEA in town. 7:00 am till 8:30. Please come by for a free cup, share your perspectives and enjoy listening to the comments.

The hits just keep on coming!

Remember the Revolutionary war was NOT fought by everybody. It was a small group of bold and courageous believers that influenced that HUGE tectonic shift in the directions of our nation.

It's our turn!

## Pristine Princeton without Geothermal Issue #12

A few remarkable things:

To begin, our electricity provider, SDCEA, held an open house this morning for members to come and have a cup of coffee. Being the first event like this, it was hard to determine some clear expectations but there were a few board members there as well as office staff. They were all fielding comments and questions from the coop members. (Of course they supplied great treats and a stiff cup of jo) There were a few steering the conversations to geothermal and of course that's where we headed as well. Jayne, Brian, Pam and Alan all had people cornered. I skipped a few minutes of my day job to earn the right to share again later by connecting with Charlie. We spoke with board members and staff as well! It was a dynamic event. Hard to imagine such spirited conversation that early in the AM but the room carried a good din the entire time I was there. I heard one guest even came over and signed our petition right there in SDCEA! Well done.

Continuing, the meeting could be in Salida next Tuesday. Two of our COunty Commissioners claimed to have that on their schedule for next week. I'm not sure why that is not publicized as an open meeting? We are still hammering out details but the expected meeting of the Energy Board and Water Board and Commissioners to blend their current 1041 with state expectations. I know it could use some sidewalk traffic if we can't get an invitation to attend. Maybe a few signs that say DRILL BABY DRILL. Some might remember Sarah Palin using this phrase in a 2008 election as a talking point about her home state of Alaska. We may have heard it again recently. Regardless, it reminds of the need to violate the surface of the earth for energy. It almost sounds hypocritical??? If we get the details about this Tuesday meeting in time, we could have a little sidewalk gathering with signs such as those! CONSEQUENCES WITHOUT BENEFITS; DRILL BABY DRILL, SECTION 1041, GEOTHERMAL OR HYDROTHERMAL? ETC

Finally,, in the news:

While looking at recent press, I came across an older post discussing this project 10 years ago.

[https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article\\_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html](https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html)

I also found something a bit more recent:

[https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article\\_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html](https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html)

And even a letter to the editor already in hard copy. See your paper for that one! Link to follow.

Hopefully, you caught the article August is working on as well.

<https://arkvalleyvoice.com/geothermal-energy-part-ii-the-path-to-power/> This is the second part to his research and it has good information for us to familiarize ourselves with. The links are also good.

After continued contemplation, I noticed the ½ mile radius is the circle drawn around the well site. I expect that is probably ok for a regular shallow well of 300' feet like our residential wells. However, it seems a deeper well might have a different requirement? I'm not sure if that would apply for a deeper well? We may need some additional information on that???

Finally, be encouraged. Your efforts are not going unnoticed. Articles, positions, media releases, and festival responses all remind me that this political process does work.

STORY: I remember a training seminar I was attending and another attendee asked the presenter, “Does this program work?” I will never forget the reply, “Do you work?” That was enough. I learned right there that NOTHING is automatic and if we want to influence our environment, we must engage.

Maybe that is today’s call to action? Get to work?

## Pristine Princeton without Geothermal Issue #13

### Weekend Update: Competition

We are building awareness throughout this community. Multiple articles, BoCC comments, letters to the editors, letters to the BoCC and phone calls!

1. **First off**, two publications published articles about our quest. Any news is good news. With increasing scrutiny of our news, we trust the public to begin to discern for themselves.
  - a. August, from Ark Valley, writes his third investigative post on our battle:  
<https://arkvalleyvoice.com/geothermal-energy-part-iii-impacts-real-or-imagined/> Please make sure you read what is posted and discern from what you already know.
  - b. The Mountain Mail was a little late to the dance but Joe Moore attended our July 21 event and posted this:  
[https://www.themountainmail.com/news/article\\_170f6880-3d50-11ee-983d-c32b0385920c.html](https://www.themountainmail.com/news/article_170f6880-3d50-11ee-983d-c32b0385920c.html)
  - c. Here’s information coming right from Colorado. (Blane, take note of the authors)  
<https://coloradogeologicalsurvey.org/publications/geothermal-energy-rockies-colorado/>
  - d. We are able to learn from those events and projects before us, even though it is from 2022:  
<https://www.denverpost.com/2022/12/15/colorado-geothermal-project-gets-federal-funds/#:~:text=The%20team%20will%20use%20existing%20and%20new%20techniques,new%20drilling%20technology%20at%20a%20site%20in%20California>
2. **Public or Private Events?** The Board of County Commissioners is attending a meeting on Tuesday, Aug 22. We are still NOT SURE of the time or place. if there are two members present, I heard it becomes a public event. Subsequently, I tried to register with a Colorado State Agency to gather more information. This agency called and given my name, they thought I was the actual County Commissioner in Sawatch County, ([Tom McCracken](#)). I can assure you that I am not him! From what I can gather, there is a meeting on Tuesday. It may be In-Person and on Zoom. It may be at a newly created Energy Department office. Additional clues were gleaned at the SDCEA coffee last Tuesday. There is a need for the Water Department and Energy Department to align regulations. That may be the goal of this Tuesday meeting. We should be ready to express that first amendment and peacefully gather on the side walk with a few signs: NIMBY, Consequences without Benefits, Drill Baby Drill etc
3. **Letters to...** Well done TEAM. You have written letters to the editors, public letters to the County Commissioners and notes and comments back to this thread. All this continued communications strengthens our cause, like the dendrite development inside our brains (sorry). Feel free to communicate appropriately with them as well. If you do not get a response, send another correspondence while referencing the earlier note. Also CC yourself as well. Ask a simple and direct question for them to answer.

i. **Keith Baker** *Commissioner District #1* [kbaker@chaffeecounty.org](mailto:kbaker@chaffeecounty.org)

- ii. **Greg Felt**      *Commissioner District #2*      [gfelt@chaffeecounty.org](mailto:gfelt@chaffeecounty.org)
- iii. **P. T. Wood**      *Commissioner District #3*      [pwood@chaffeecounty.org](mailto:pwood@chaffeecounty.org)

- 4. [Chapter 10: This link](#) addresses the County Regulations on a possible test well and finished product. Invest some time familiarizing yourself to this document, please
- 5. A few of us met with Mark Baisley, our Colorado state rep from this county and a few other counties around us. We wanted to ensure this project was on his radar. We will forward our periodic emails to him as well. **mark.baisley@senate.co.com**

In conclusion, stay strong as this battle continues. Remember, we have the goal of moving the location of this test drill. Geothermal could work in a remote setting, but not in your front yard.

Tom

## Pristine Princeton without Geothermal Issue #14

### How to write a letter...

Here are a few suggested instructions on how to undertake an effective letter writing campaign. It covers the who, what, and how topics. These suggestions are outlined from one of our faithful supporters. Feel free to follow these proven methods.

In response to “*write letters to whom*” comment? Civics class 100. Write to your duly elected representatives in the Colorado General Assembly for starters....this is the way our government works. Years ago I used to work for Congressman Charles Thone, District 1, United States House of Representatives in Washington, D.C. I was his Legislative Aid to Financial Affairs on the Hill and I personally represented him in committee meetings when held and responded to every constituent of Congressman Thone if it fell under the my umbrella by presenting his position on matters of legislation in my arena. Letters are effective. They take time, but emailing the letter does document that the correspondence was sent via the various servers the email goes through so if they do not respond timely, write or call them again making reference to their previous letter. If some think it is too much bother to write a letter, then they can use the individual's capitol telephone to leave a short/focused message (same format as below) and request a call back on the subject matter.

Here is the information needed for contacting your specific individuals in the Colorado General Assembly you can reword and send it out to those at LCR, other HOA's. Please use your name on this information (not mine) since you are the lead in this big Geothermal project matter.

Recommendation for writing Letters to your specific Colorado Representatives in the Colorado General Assembly. The Colorado Constitution stipulates that the lawmaking power of the state be vested in a General Assembly consisting of a Senate and a House of Representatives. The Colorado Constitution further stipulates that regular sessions of the General Assembly not exceed 120 calendar days. As of January 2023 the Senate is made up of 23 Democrats and 12 Republicans which constitutes a total of 35 members. As of January 2023 the Colorado House of Representatives is made up of 46 Democrats and 19 Republicans for a total of 65 members. Governor Polis is a Democrat. If you live in Chaffee, Grand, Jackson, Lake, Park, and Summit your House Representative is Julie McCluskie, a Democrat, and she is Speaker of the House. Here is the link for her contact information: <https://leg.colorado.gov/node/1474731>. If you live in Chaffee, Custer, Douglas, Fremont, Jefferson, Lake, Park, and Teller, your Senator is Mark Baisley, a Republican. Here is the link for his contact information: <https://leg.colorado.gov/node/1474776>. The Colorado General Assembly ended its formal session on May 8, 2023, and will not reconvene until January 2024, or unless a special session(s) is called by the Governor or by the General Assembly. I contacted the General Assembly this date 8/15/2023 and spoke with an individual responsible for responding to general questions of the Colorado General Assembly who stated that the best way to reach your Senator and your House of Representatives elected official was to email them your letter and they would respond either themselves or through one of their intern staff members. Therefore, if you would like to write an advocacy letter(s) to your specific elected officials in the Colorado General Assembly in the county where you have your home/cabin, it would be important to follow some basic tips for writing such letters....be polite! Tips include: Date, individuals address, brief salutation, introduce yourself by name, address and that you are a constituent, why are you writing this individual, be personal, be factual, support your position, request a response, thank the individual for their time, and closing using your name, and keep it to only one page. Writing a letter and emailing it to your two duly elected officials does make a big statement if enough people do it.

School just resumed for the year. It promises to be a pretty good year, after two days of class. 👍 Things could change but we'll press on!

Two things:

We just found this last night:

Hank Held, one of the owners of Mt Princeton Geothermal, LLC is one of the persons on the Chaffee County Planning Commission? Here is the link, look him up. Please read how Hank got appointed!!...it's all on the county website. He gets appointed by the Chaffee County Board of Commissioners!!!...and Mr. Keith Baker is one of the Board.... I wonder what would happen if the newspaper got a hold of this and printed a nice "big" story about this. I am not an attorney, but maybe there could be a possible conflict of interest somewhere in the mix?....and an insider pushing his "Geothermal project" with a County Commissioner Board....maybe this is why this was such a hush thing and few people knew much about it.. I would say that Baker and other Board members that have been there definitely know of Hank Held and what he was doing.... know each other very well....kind of cozy relationship.

<https://www.chaffeecounty.org/Planning-and-Zoning-Planning-Commision>

Interesting comments about ex parte conversations in the third paragraph of this page:

*Please note that it is inappropriate to personally contact individual County Commissioners or Planning Commission members while an application is pending. Such contact is considered ex parte communication and will have to be disclosed as part of the public hearing on the matter. If you have any concerns, you should contact staff, write a letter, or present your concerns at the public meeting so you(r) comments can be made part of the record.*

What might be a good approach for us to call out this hypocrisy? It does seem pretty nefarious.

Additionally, we are making a second request (after 10 days) for a copy of the letter asking for initial funding for the test well. That request was made to Sangre de Cristo directly via email. Our next step is to ask the County Office next.

1. Should we go public with this information about Hank Held being on the board of P & Z?
2. Is there a conflict of interest with him lobbying for a geothermal plant in our county?
3. Would letters to the editor help in this situation?
4. Should we wait till we have the letter from SDCEA or the county documenting the endorsement by K Baker for a financing request?
  - a. Should we "piecemeal" out our information or wait till we gather more information?
    - i. How much is enough?
5. Any ideas on other possible next steps?

Thank you

Tom McCracken

As we transition into the school season, I will not be able to devote as much attention to this vital project. However, I have noticed deep conviction and motivation from so many on this team and wanted to share a few updates. THANK YOU.

### **Here is another option to up our game:**

The Chaffee County Planning and Zoning has regular meetings as well. Those meetings are in the evenings. [There is even a remote observation via zoom option.](#) The next evening meetings are: Sept 19, Oct 17, Nov 21 and Dec 19. (The third Tuesday of the month) Join via ZOOM at 6:00 PM. People that could not make the day time commissioners meetings might be able to watch these meetings instead. (To those of you that have these meetings playing, PLEASE take notes.

<https://www.chaffeecounty.org/Planning-and-Zoning-Planning-Commission>

### **Planning Commission meetings may be joined via Zoom:**

[Join Meeting](#)

<https://zoom.us/j/4328290633> or call in at 1-669-900-6833 using Meeting ID # 432 829 0633

They are part of the governing body: [Geothermal 1041](#)

### **Regarding earthquakes: See <https://www.usgs.gov/>**

A local geologist has mentioned to me that this is the SECOND most watched fault in the US as observed by the USGS. He considers endorsing us living close to this proposed site to have an earthquake insurance rider. <https://earthquake.usgs.gov/earthquakes/map/?extent=-85.2298,-167.34375&extent=85.2298,568.125&listOnlyShown=true&timeZone=utc>

In October of 2013, Fred discusses the three stages of the development of this project and mentioned earthquakes around binary pants in NV claiming none:

[https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article\\_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html](https://www.chaffeecountytimes.com/news/mt-princeton-geothermal-presents-energy-plan/article_ddbbd9bc-2b92-11e3-a165-0019bb30f31a.html)

We may need to update him on better knowledge.

<https://www.kcra.com/article/usgs-reports-magnitude-64-earthquake-in-western-nevada/32489432> and

<https://earthquaketrack.com/r/nevada/biggest#:~:text=Nevada%20has%20had%3A%20%28M1.5%20or%20greater%29%204%20earthquakes,Nevada%3A%20today%3A%202.6%20in%20Hawthorne%2C%20Nevada%2C%20United%20States>

### **IN THE NEWS: Speaking of Salt Shakers...**

Look for Hank Held in the news back a few years ago at the Global New Energy Summit in Colorado Springs:

[https://www.youtube.com/watch?v=9qZvxmi\\_YoU](https://www.youtube.com/watch?v=9qZvxmi_YoU)

Take notes on this video and consider how their intent seems to adjust and we do seem to hear differing perspectives.

HH allegedly joined [MtPrincetonGeothermal](#) in [2011 per FB](#) (Really John Hank Held)



JHH is not a pure geologist but multifaceted. See his linked in profile:

<https://www.linkedin.com/in/john-hank-held-0b4b6a7>

Here is the duplicate link from Ark Valley that summarizes this summer:

<https://arkvalleyvoice.com/geothermal-energy-part-iii-a-closer-look-at-impacts/>

This article was updated with new information but still of good value as it shares the 1041 origins for geothermal:

[https://www.chaffeecountytimes.com/free\\_content/county-oks-geothermal-regs/article\\_7f764dba-3c13-11e3-9e11-0019bb30f31a.html](https://www.chaffeecountytimes.com/free_content/county-oks-geothermal-regs/article_7f764dba-3c13-11e3-9e11-0019bb30f31a.html) and it even refers to the Chaffee County Geothermal Page: [Geothermal 1041](#) although this page lacks the Chapter 10 applying to the Geothermal regulations.

**Interesting History from the Archives:** (Search Salida Geothermal)

Here's how it was back in 2009 in Chaffee County: (Blane, note the Geologist on the scene)

[https://www.themountainmail.com/news/article\\_627a1334-9b16-5348-9488-2083bfd66d7b.html](https://www.themountainmail.com/news/article_627a1334-9b16-5348-9488-2083bfd66d7b.html)

Everybody seems to wants to write a letter of support:

[https://www.themountainmail.com/news/article\\_836c6dac-3a20-5770-9770-2cbcc02b34bd.html](https://www.themountainmail.com/news/article_836c6dac-3a20-5770-9770-2cbcc02b34bd.html)

Testing here and there:

[https://www.themountainmail.com/news/article\\_3ee672f0-20f6-11e1-9bc7-001a4bcf6878.html](https://www.themountainmail.com/news/article_3ee672f0-20f6-11e1-9bc7-001a4bcf6878.html)

A 2021 national conversation was relevant: <https://geothermal.org/events/2021-geothermal-rising-conference>

One of our own just got published:

[https://www.themountainmail.com/opinion/letters/article\\_a485f1bc-4088-11ee-8e28-2b754d7f47be.html](https://www.themountainmail.com/opinion/letters/article_a485f1bc-4088-11ee-8e28-2b754d7f47be.html)

It seems we keep chipping away. As I assemble these briefs, I wonder if there will be something for the next issue, but we always manage to share something. I think this is about the 15th email sent since May 25th. Thank you for all the support as we strive towards this common goal.

There is also a BoCC meeting this week in Salida at 9:00.

Mr. McCracken

As stated by individual County Commissioners during their individual calendar review at last Tuesday's meeting, two Commissioners mentioned a webinar being hosted by a third party that one or more of the Commissioners may choose to attend. This is not an official meeting of the Board of County Commissioners, and no County business will be discussed or transacted.

Thank you

**Don Reimer**

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